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are abundant upon leaf scars and twigs. The life-history is summed up as follows:

The spores, scattered profusely over the limbs, germinate as soon as enough rain has fallen to wet them up thoroughly, usually in December or January. Spores lying on the green bark of new shoots penetrate the tissue and cause the characteristic spotting. Spores lying about the bud scales produce a mycelium which penetrates and kills outright both the bud and quite an area of surrounding bark, the spot extending from one-fourth to one inch in length. On the spots spore pustules are developed.

The fungus was cultivated in beef agar, in ordinary agar, and on sterilized peach twigs. The colonies are black with distinct zonal arrangement of conidia. No indication of an ascigerous stage was found.—F. L. STEVENS.

Fungus diseases of sugar cane.—BUTLER¹⁷ has given an account of the fungi attacking sugar cane in Bengal. The most serious disease seems to be caused by *Colletotrichum falcatum* Went., which causes a rot of the stalks that spreads from the base upward. In the early stages of the disease the fungus greatly reduces the sugar-content of the cane. With the disappearance of the cane sugar there is a simultaneous increase of glucose. This is attributed to the inverting action of the fungus, and by proper flask experiments it was shown that the fungus has the power of inverting cane sugar. All parts of the cane are attacked by the fungus. On the stem it is often accompanied by a form of Melanconium (*Trichosphaeria Sacchari*), which was once regarded as the cause of the most destructive cane disease of the West Indies, namely the "rind disease." BUTLER believes, however, that the Melanconium is only an accompanying fungus and that *Colletotrichum falcatum* is possibly the cause of the famous "rind disease."

A number of other fungi are more briefly described. *Ustilago Sacchari* Rabenh. transforms the growing axis into a long spore sac. *Diplodia cacaoicola* (P. Henn.), which was originally found on *Theobroma cacao*, is said also to attack the stems of cane. *Cytospora Sacchari* Butl. is described as a new species also found on the stems of cane. *Thielaviopsis ethacetica* Went. is the cause of the "pine-apple" disease of the young sets, while *Sphaeronema adiposum* Butl. somewhat resembles the latter in its effects. The most serious leaf diseases are the brown leaf spot caused by *Cercospora longipes* Butl., described as a new species, and the well-known ring-spot, found everywhere on cane leaves in the tropics and caused by *Leptosphaeria Sacchari* Br. & H.—H. HASSELBRING.

Cyanogenesis in plants.—TREUB returns to a discussion of the origin and distribution of hydrocyanic acid.¹⁸ Incidentally he adds in one of his tables to the list of plants in which HCN has been found (as given by GRESHOFF at the York meeting of the B. A. A. S.) six genera and sixteen species. HCN as a rule, in hot countries at least, disappears from the leaves before their fall, the contrary

¹⁷ BUTLER, E. J., Fungus diseases of sugar cane in Bengal. Mem. Dept. Agric. India Bot. 1: no. 3. pp. 53. pls. 11. 1906.

¹⁸ TREUB, M., Nouvelles recherches sur la rôle de l'acide cyanhydrique dans les plantes vertes, II. Ann. Jard. Bot. Buitenzorg 21: 79-106. pls. 1, 2. 1907.